APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0023 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Square D by Schneider Electric

Manufacturer's Technical Representative: Jeffrey A. Gatscher, Fellow Engineer

Mailing Address: 330 Weakley Lane, Smyrna, TN 37167

Telephone: 615-459-8466 Email: jeff.gatscher@schneider-electric.com

Product Information

Product Name: Styles A, B and C Encapsulated Resin Filled Transformers and Styles D, E and H Ventilated and Non-ventilated Transformers and Style 2016 EX Ventilated Transformers. Mini Power-Zone Unit Substation.

Product Type: Dry Type Low Voltage Transformers (600 Volts and Below) and Low Voltage Unit Substations

Product Model Number: Transformer Model Styles A, B, C, D, E, H and DOE2016 EX and Mini Power-Zone Model MPZB (see Certified Product Listing tables)
(List all unique product identification numbers and/or part numbers)

General Description: Single phase and three phase dry type low voltage transformers in copper and aluminum windings packaged in sheet metal framed enclosures (NEMA Type 2 and 3R). Low voltage unit substations with single phase and three phase encapsulated transformers packaged with main and secondary circuit breakers in sheet metal framed enclosures (NEMA Type 3R). UUTs & modifications required to address anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid floor mounted or rigid wall mounted or rigid wall-bracket mounted (see Certified Product Listing tables).

Applicant Information

Applicant Company Name: Square D by Schneider Electric

Contact Person: Thomas R. Patzner

Mailing Address: 1010 Airpark Center Drive, Nashville, TN 37217

Telephone: 615-844-8536 Email: thomas.patzner@schneider-electric.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Date: 01/21/2016

Title: Staff Marketing Specialist Company Name: Schneider Electric

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6th Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.com

Supports and Attachments Preapproval

☐ Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): _____

Testing Laboratory 1

Company Name: NTS Huntsville (formerly Wyle Laboratories)

Contact Name: Don Smith – Manager, Commercial Test Services

Mailing Address: 7800 Highway 20 West, Huntsville, AL 35806

Telephone: 256-716-4221 Email: don.smith@wyle.com

Testing Laboratory 2

Company Name: Applied Technical Services, Inc.

Contact Name: David N. Common – Senior Test Engineer, Dynamics Testing

Mailing Address: 1049 Triad Court, Marietta, GA 30062

Telephone: 678-444-2905 Email: dcommon@atslab.com

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = See Certified Product Listing tables

S_{DS} (Design spectral response acceleration at short period, g) = See Certified Product Listing tables

a_p (In-structure equipment or component amplification factor) = 1.0

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 (also evaluated at grade elevation z/h=0)

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See Certified Product Listing tables

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = 1.5

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☒ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: _____ Date: 3/4/16

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): _____

Certified Product Listing
Ventilated and Non-Ventilated Dry Type Transformers
Floor Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Transformers – Low Voltage (600 Volts and Below) – Dry Type

Product Line Models: Styles D and H Ventilated Transformers in Classes, EP (NEMA Premium), and HM (Harmonic Mitigating). Style E Non-Ventilated Transformers.

Product Options: 1 Ø and 3 Ø Core and Coils with Copper (Cu) or Aluminum (Al) Windings packaged in a NEMA Type 2 or Type 3R Enclosure

Product Mounting: Rigid Floor Mount

Square D Low Voltage Dry Type Transformers – Styles D, H and E – Floor Mounted

Model Style	Phase	Power Rating (kVA)	NEMA Enclosure[1]					Weight (lbs.)	Notes	Certification Level									
										Copper Windings					Aluminum Windings				
										Test Status	z/h = 0		z/h = 1		Test Status	z/h = 0		z/h = 1	
			Height (in.)	Width (in.)	Depth (in.)	Style Number	Type[2]				S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W		S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
D and H	1 Ø	15	27	20	16	17D	2, 3R	340		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		25	37	20	16	17H	2, 3R	380		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		37.5	37	20	20	18H	2, 3R	465		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		50	37	20	20	18H	2, 3R	430		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		75	37	30	24	21D	2, 3R	802		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		100	43.75	32	27	22D	2, 3R	1128		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		167	49.5	35	28.5	24D	2, 3R	1190		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
	3 Ø	15	27	20	16	17D	2, 3R	320		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		30	27	20	16	17D	2, 3R	340		Extrapolated	2.56	1.15	2.12	1.53	D191457 UUT-17D	2.40	1.08	1.80	1.30
		45	30	20	20	18D	2, 3R	430		Extrapolated	2.56	1.15	2.12	1.53	Interpolated	2.32	1.04	1.80	1.30
		75	37	30	20	20D	2, 3R	600		D198959 UUT-3	2.56	1.15	2.15	1.55	Interpolated	2.32	1.04	1.80	1.30
		112.5	37	30	24	21D	2, 3R	802		50348-3 UUT-5	3.10	1.40	2.25	1.62	D191457 UUT-21D	2.32	1.04	1.94	1.40
		150	43.75	32	27	22D	2, 3R	1128		50348-3 UUT-4	3.10	1.40	2.25	1.62					
		225	49.5	35	28.5	24D	2, 3R	1190		Interpolated	2.56	1.15	2.12	1.53					
		300	49.5	41	32	25D	2, 3R	2600		50348-2 UUT-2	3.22	1.45	2.12	1.53					
		500	71	48	36	30D	2, 3R	2600		Interpolated	2.56	1.15	2.12	1.53					
		750	74	56	40.5	31D	2, 3R	4012		50348-1 UUT-1	3.22	1.45	2.12	1.53					
E[3]	1 Ø	15	27	20	16	17E	3R	340		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		25	30	20	20	18E	3R	430		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		37.5	30	20	20	18E	3R	430		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		50	37	30	24	21E	3R	725		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		75	49.5	35	28.5	24E	3R	1190		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		100	49.5	41	32	25E	3R	1570		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
	3 Ø	30	30	30	20	19E	3R	620		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		45	30	30	20	19E	3R	620		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		75	43.75	32	27	22E	3R	985		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		112.5	49.5	35	28.5	24E	3R	1190		Extrapolated	2.56	1.15	2.12	1.53	Extrapolated	2.32	1.04	1.80	1.30
		150	49.5	41	32	25E	3R	1570		Extrapolated	2.56	1.15	2.12	1.53					
		225	71	48	36	30E	3R	2600		Extrapolated	2.56	1.15	2.12	1.53					
		300	74	56	40.5	31E	3R	2600		Extrapolated	2.56	1.15	2.12	1.53					

Notes:
1. All enclosures are carbon steel sheet construction with a powder-coated finish.
2. The NEMA rating of the tested units is underlined.
3. Model Style E is identical to Style D with the front and rear cover sheets extending to the top (i.e., no vents).

Certified Product Listing
Ventilated and Non-Ventilated Dry Type Transformers
Wall-Bracket Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Transformers – Low Voltage (600 Volts and Below) – Dry Type

Product Line Models: Styles D and H Ventilated Transformers in Classes, EP (NEMA Premium), and HM (Harmonic Mitigating). Style E Non-Ventilated Transformers.

Product Options: 1 Ø and 3 Ø Core and Coils with Copper (Cu) or Aluminum (Al) Windings packaged in a NEMA Type 2 or Type 3R Enclosure with Wall-mount Support Brackets.

Product Mounting: Rigid Wall-Bracket Mount

Square D Low Voltage Dry Type Transformers – Styles D, H and E – Floor Mounted

Model Style	Phase	Power Rating (kVA)	NEMA Enclosure[1]					Weight (lbs.)	Notes	Certification Level								
										Copper Windings					Aluminum Windings			
										Test Status	z/h = 0		z/h = 1		Test Status	z/h = 0		z/h = 1	
			Height (in.)	Width (in.)	Depth (in.)	Style Number	Type[3]				S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W		S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
D and H	3 Ø	30	27	20	16	17D	2, 3R	340	2						D198959 UUT-4	3.13	1.41	2.52	1.81
		75	37	30	20	20D	2, 3R	600	2	D198959 UUT-5	2.50	1.13	2.41	1.80					

Notes:
1. All enclosures and wall-brackets are carbon steel sheet construction with a powder-coated finish.
2. Requires use of Square D wall mounting brackets.
3. The NEMA rating of the tested units is underlined. Type 3R enclosures add rain guards over the vents. They are not connected frequently enough to the enclosure to affect its structural performance.

Certified Product Listing
Resin Filled Encapsulated Transformers
Wall Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Transformers – Low Voltage (600 Volts and Below) – Dry Type

Product Line Models: Styles A, B, and C Resin Filled Encapsulated Transformers

Product Options: 1 Ø and 3 Ø Encapsulated (Resin Filled) Core and Coils with Copper (Cu) or Aluminum (Al) Windings packaged in a NEMA Type 3R Enclosure

Product Mounting: Rigid Wall Mount

Square D Low Voltage Resin Filled Encapsulated Transformers – Styles A, B, and C – Wall Mounted

Model Style	Phase	Power Rating (kVA)	NEMA Enclosure[2]					Weight (lbs.)	Notes	Certification Level								
										Copper Windings					Aluminum Windings			
										Test Status	z/h = 0		z/h = 1		Test Status	z/h = 0		z/h = 1	
			Height (in.)	Width (in.)	Depth (in.)	Style Number	Type[2]				S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W		S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
A	1 Ø	0.05	5	4.47	3.44	1A	3R	4.2	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		0.10	5.5	4.47	3.44	2A	3R	4.5	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		0.15	5	4.85	3.75	3A	3R	6.2	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		0.25	5.5	5.23	4.06	4A	3R	10.5	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		0.50	6.19	6.19	4.69	5A	3R	13.8	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		0.75	6.69	6.19	4.69	6A	3R	15.5	1, 2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		1	8.13	6.94	5.31	7A	3R	23	2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		1.5	8.25	8.68	6.56	8A	3R	30.1	2	Extrapolated	2.88	1.30	2.39	1.72	Extrapolated	2.73	1.23	1.92	1.38
		2	9.56	8.68	6.56	9A	3R	48	2	Extrapolated	2.88	1.30	2.39	1.72	D191457 UUT-9A	2.73	1.23	1.92	1.38
		3	10.5	8.62	6.5	10A	3R	55.2	2	Extrapolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		3	14.5	8.62	6.5	11A	3R	60	2	51551-5 UUT-1	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
B	1 Ø	5	14.75	9.75	11.75	13B	3R	165	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		7.5	14.75	9.75	11.75	13B	3R	165	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		10	14.75	9.75	11.75	13B	3R	165	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		15	20	15	13.5	15B	3R	382	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		25	20	15	13.5	15B	3R	382	2	51551-5 UUT-3	2.88	1.30	2.39	1.72	D193947 UUT-15B	2.74	1.23	1.94	1.40
C	3 Ø	3	13.5	14.75	9	12C	3R	145	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		6	13.5	14.75	9	12C	3R	145	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		9	14.75	19.1	12.25	14C	3R	310	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		15	14.75	19.1	12.25	14C	3R	310	2	Interpolated	2.88	1.30	2.39	1.72	Interpolated	2.73	1.23	1.92	1.38
		30	22	25	13.5	16C	3R	664	2, 3	51551-5 UUT-2	2.88	1.30	2.39	1.72					

Notes:
1. Transformers weighing less than 20 lbs. do not require testing.
2. All enclosures are carbon steel sheet construction with a powder-coated finish.
3. Aluminum windings are not a product option.

Certified Product Listing
Mini Power-Zone Low Voltage Unit Substation
Wall Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Distribution Unit Substation – Low Voltage (600 Volts and Below)

Product Line Models: Mini Power-Zone Unit Substation (MPZB)

Product Options: 1 Ø and 3 Ø Encapsulated (Resin Filled) Core and Coils with Copper (Cu) Windings packaged in a NEMA Type 3R Enclosure with NQ Panelboard Interior Main and Secondary Circuit Breakers

Product Mounting: Rigid Wall Mount

Square D Low Voltage Distribution Unit Substation – Mini Power-Zone Style MPZB – Wall Mounted

Model Style	Phase	Power Rating (kVA)	Model Number	NEMA Enclosure[1]					Weight (lbs.)	Notes	Certification Level[2]				
											Copper Windings				
				Height (in.)	Width (in.)	Depth (in.)	Style Number	Type			Test Status	z/h = 0		z/h = 1	
												S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
MPZB	1 Ø	5	MPZB5S40F	41	16	11.9	AA	3R	175	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB5S40F25K	41	16	11.9	AA	3R	175	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB5S40F65K	41	16	11.9	AA	3R	175	1	Extrapolated	2.98	1.34	2.29	1.65
		7.5	MPZB7S40F	41	16	11.9	AA	3R	200	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB7S40F25K	41	16	11.9	AA	3R	200	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB7S40F65K	41	16	11.9	AA	3R	200	1	Extrapolated	2.98	1.34	2.29	1.65
		10	MPZB10S40F	41	16	11.9	AA	3R	215	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB10S40F25K	41	16	11.9	AA	3R	215	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB10S40F65K	41	16	11.9	AA	3R	215	1	Extrapolated	2.98	1.34	2.29	1.65
		15	MPZB15S40F	51	21.4	13.5	BB	3R	390	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB15S40F25K	51	21.4	13.5	BB	3R	390	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB15S40F65K	51	21.4	13.5	BB	3R	390	1	Extrapolated	2.98	1.34	2.29	1.65
		25	MPZB25S40F	51	21.4	13.5	BB	3R	390	1	ATS D198959, UUT-7	3.16	1.42	2.44	1.76
			MPZB25S40F25K	51	21.4	13.5	BB	3R	390	1	Interpolated	2.98	1.34	2.29	1.65
			MPZB25S40F65K	51	21.4	13.5	BB	3R	390	1	Interpolated	2.98	1.34	2.29	1.65
	3 Ø	15	MPZB15T2F	48.6	27.4	13.6	CC	3R	510	1	Interpolated	2.98	1.34	2.29	1.65
			MPZB15T2F25K	48.6	27.4	13.6	CC	3R	510	1	Interpolated	2.98	1.34	2.29	1.65
			MPZB15T2F65K	48.6	27.4	13.6	CC	3R	510	1	Interpolated	2.98	1.34	2.29	1.65
		22.5	MPZB22T2F	48.6	27.4	13.6	CC	3R	670	1	Interpolated	2.98	1.34	2.29	1.65
			MPZB22T2F25K	48.6	27.4	13.6	CC	3R	670	1	Interpolated	2.98	1.34	2.29	1.65
			MPZB22T2F65K	48.6	27.4	13.6	CC	3R	670	1	Interpolated	2.98	1.34	2.29	1.65
		30	MPZB30T2F	48.6	27.4	13.6	CC	3R	750	1	ATS D198959, UUT-8	2.98	1.34	2.29	1.65
			MPZB30T2F25K	48.6	27.4	13.6	CC	3R	750	1	Extrapolated	2.98	1.34	2.29	1.65
			MPZB30T2F65K	48.6	27.4	13.6	CC	3R	750	1	Extrapolated	2.98	1.34	2.29	1.65

Notes:
1. All enclosures are carbon steel sheet construction with a powder-coated finish.
2. Certification level is limited to the lower rating of either the product section, as listed here, or the internal components, as listed on the Certified Major Subcomponents table

Certified Product Listing
Style DOE 2016 EX Dry Type Transformers
Floor Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Transformers – Low Voltage (600 Volts and Below) – Dry Type

Product Line Models: Energy Efficient Style DOE 2016 EX

Product Options: 3 Ø Core and Coils with Copper (Cu) or Aluminum (Al) Windings packaged in a NEMA Type 1, 2 or Type 3R Enclosure

Product Mounting: Rigid Floor Mount

Square D Low Voltage Dry Type Transformers – Style DOE 2016 EX – Floor Mounted

Model Style	Phase	Power Rating (kVA)	NEMA Enclosure[1]					Weight (lbs.)	Notes	Certification Level									
										Copper Windings					Aluminum Windings				
										Test Status[2]	z/h = 0		z/h = 1		Test Status[2]	z/h = 0		z/h = 1	
			Height (in.)	Width (in.)	Depth (in.)	Style Number	Type				S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W		S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
Floor Mounted EX – DOE2016	3 Ø	15	27	20.5	17.25	17K	1, 2, 3R	246	No Internal Bracing	UUT-2	2.25	1.01	2.25	1.62	UUT-1	2.25	1.01	2.25	1.62
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
			35.3	25.5	21	18K	1, 2, 3R	325	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		30	35.3	25.5	21	18K	1, 2, 3R	447	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		45	35.3	25.5	21	18K	1, 2, 3R	563	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
			42	30.1	22.75	20K	1, 2, 3R	614	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		75	42	30.1	22.75	20K	1, 2, 3R	732	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
			46	31.3	24	21K	1, 2, 3R	805	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		112.5	46	31.3	24	21K	1, 2, 3R	1152	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
			49.1	33.65	28.5	22K	1, 2, 3R	1248	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		150	49.1	33.65	28.5	22K	1, 2, 3R	1314	No Internal Bracing	UUT-4	1.56	0.72	1.42	1.02	UUT-3	1.56	0.72	1.42	1.02
									With Internal Bracing	UUT-4	2.22	1.00	2.22	1.60	UUT-3	2.22	1.00	2.22	1.60
			57.5	40.1	32.75	25J	1, 2, 3R	1854	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		225	57.5	40.1	32.75	25J	1, 2, 3R	2020	No Internal Bracing	Interp.	1.56	0.72	1.42	1.02	Interp.	1.56	0.72	1.42	1.02
									With Internal Bracing	Interp.	2.22	1.00	2.22	1.60	Interp.	2.22	1.00	2.22	1.60
		300	57.5	40.1	32.75	25J	1, 2, 3R	2136	No Internal Bracing	UUT-6A	2.13	0.96	2.13	1.53	UUT-5	2.31	1.04	2.31	1.66
			71	48.3	37.9	30J	1, 2, 3R	3608	No Internal Bracing	Interp.	2.13	0.96	2.13	1.53	Interp.	2.13	0.96	2.13	1.53
		500	71	48.3	37.9	30J	1, 2, 3R	3915	No Internal Bracing	Interp.	2.13	0.96	2.13	1.53	Interp.	2.13	0.96	2.13	1.53
			76	56	44.5	31J	1, 2, 3R	4584	No Internal Bracing	Interp.	2.13	0.96	2.13	1.53	Interp.	2.13	0.96	2.13	1.53
		750	76	56	44.5	31J	1, 2, 3R	4937	No Internal Bracing	UUT-8A	2.17	0.98	2.17	1.56	UUT-7A	2.13	0.96	2.13	1.53

Notes:
1. All enclosures are carbon steel sheet construction with a powder-coated finish.
2. Test Units from Test Report PR036473-TR-15

Certified Product Listing
Style DOE 2016 EX Dry Type Transformers
Wall-Bracket Mounted

Manufacturer: Square D by Schneider Electric

Product Category: Transformers – Low Voltage (600 Volts and Below) – Dry Type

Product Line Models: Energy Efficient Style DOE 2016 EX

Product Options: 3 Ø Core and Coils with Copper (Cu) or Aluminum (Al) Windings packaged in a NEMA Type 1, 2 or Type 3R Enclosure

Product Mounting: Rigid Wall-Bracket Mount

Square D Low Voltage Dry Type Transformers – Style DOE 2016 EX – Wall-Bracket Mounted

Model Style	Phase	Power Rating (kVA)	NEMA Enclosure[1]					Weight (lbs.)	Notes	Certification Level									
										Copper Windings					Aluminum Windings				
										Test Status[2]	z/h = 0		z/h = 1		Test Status[2]	z/h = 0		z/h = 1	
			Height (in.)	Width (in.)	Depth (in.)	Style Number	Type				S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W		S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
Wall Bracket Mounted EX - DOE2016	3 Ø	15	27	20.5	17.25	17K	1, 2, 3R	246		UUT-10	2.17	0.98	2.17	1.56	UUT-9	2.17	0.98	2.17	1.56
			35.3	25.5	21	18K	1, 2, 3R	325		Interp.	1.80	0.81	1.44	1.04	Interp.	1.69	0.76	1.52	1.09
		30	35.3	25.5	21	18K	1, 2, 3R	447		Interp.	1.80	0.81	1.44	1.04	Interp.	1.69	0.76	1.52	1.09
		45	35.3	25.5	21	18K	1, 2, 3R	563		Interp.	1.80	0.81	1.44	1.04	Interp.	1.69	0.76	1.52	1.09
			42	30.1	22.75	20K	1, 2, 3R	614		Interp.	1.80	0.81	1.44	1.04	Interp.	1.69	0.76	1.52	1.09
		75	42	30.1	22.75	20K	1, 2, 3R	706		UUT-12	1.80	0.81	1.44	1.04	UUT-11	1.69	0.76	1.52	1.09
			46	31.3	24	21K	1, 2, 3R	805		Extrap.	1.80	0.81	1.44	1.04	Extrap.	1.69	0.76	1.52	1.09

Notes:
1. All enclosures and wall-brackets are carbon steel sheet construction with a powder-coated finish.
2. Test units from test report PR036473-TR-15.

Molded Case Circuit Breakers (2 Pole and 3 Pole)										
Frame Type	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Certification Level[2]				
						Test Status	z/h = 0		z/h = 1	
							S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
FA	480	15	Square D	FAL24015	1	Extrapolated	2.98	1.34	2.29	1.65
	480	20	Square D	FAL24020	1	Extrapolated	2.98	1.34	2.29	1.65
	480	30	Square D	FAL24030	1	Extrapolated	2.98	1.34	2.29	1.65
	480	40	Square D	FAL34040	1	Extrapolated	2.98	1.34	2.29	1.65
	480	60	Square D	FAL24060	1	Extrapolated	2.98	1.34	2.29	1.65
	480	70	Square D	FAL34070	1	Extrapolated	2.98	1.34	2.29	1.65
	480	90	Square D	FAL34090	1	ATS D198959, UUT-8	2.98	1.34	2.29	1.65
	480	100	Square D	FAL24100	1	ATS D198959, UUT-7	3.16	1.42	2.44	1.76
PowerPact H	600	15	Square D	HJL26015	1	Extrapolated	2.98	1.34	2.29	1.65
	600	20	Square D	HJL26020	1	Extrapolated	2.98	1.34	2.29	1.65
	600	30	Square D	HJL26030	1	Extrapolated	2.98	1.34	2.29	1.65
	600	40	Square D	HJL34040	1	Extrapolated	2.98	1.34	2.29	1.65
	600	60	Square D	HJL26060	1	Extrapolated	2.98	1.34	2.29	1.65
	600	70	Square D	HJL34070	1	Extrapolated	2.98	1.34	2.29	1.65
	600	90	Square D	HJL34090	1	ATS D198959, UUT-8	2.98	1.34	2.29	1.65
	600	100	Square D	HJL26100	1	ATS D198959, UUT-7	3.16	1.42	2.44	1.76

Notes:

1. The sub-components listed here include part numbers which provided identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
2. Certification level is limited to the lower rating of either the internal subcomponents, as listed here, or the product level, as listed on the Certified Product table.

Miniature Circuit Breakers (2 Pole and 3 Pole)										
Frame Type	Rated Voltage (Volts)	Rated Current (Amps)	Manufacturer	Part No. / Identifier	Notes	Certification Level[2]				
						Test Status	z/h = 0		z/h = 1	
							S_{DS} (g)	F_p/W	S_{DS} (g)	F_p/W
QO	120/240	30	Square D	QOB230	1	Extrapolated	2.98	1.34	2.29	1.65
	120/240	40	Square D	QOB240	1	Extrapolated	2.98	1.34	2.29	1.65
	120/240	60	Square D	QOB260	1	Extrapolated	2.98	1.34	2.29	1.65
	240	60	Square D	QOB360	1	Extrapolated	2.98	1.34	2.29	1.65
	120/240	80	Square D	QOB280	1	Extrapolated	2.98	1.34	2.29	1.65
	240	80	Square D	QOB380	1	Extrapolated	2.98	1.34	2.29	1.65
	240	100	Square D	QOB3100	1	ATS D198959, UUT-8	2.98	1.34	2.29	1.65
	120/240	125	Square D	QOB2125	1	ATS D198959, UUT-7	3.16	1.42	2.44	1.76

Notes:

1. The sub-components listed here include part numbers which provided identify configuration, manufacturer, and materials. Tested sub-components and interpolated items have the same manufacturer and materials and have similar configuration and construction as the tested units.
2. Certification level is limited to the lower rating of either the internal subcomponents, as listed here, or the product level, as listed on the Certified Product table.

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	EE75T3HCU

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D198959 – Rev 1	05/29/2013	UUT-3

UUT Notes / Description

1. The UUT is a low voltage (75 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 20D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
600	37	30	20	5.7	15.8	20.3	Rigid floor mount with (4) 7/16-14 grade 5 bolts and flat washers at 50 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	2.56	0	1.5	2.56	1.02	1.72	0.69
		2.15	1	1.5	3.44	2.58	1.44	0.58

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3Ø Copper	Square D	75 kVA
Enclosure – NEMA Type 2	Square D	20D
Enclosure Base	Square D	43055-009-01

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	112T3HCU

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	50348-3	12/12/2003	UUT-5

UUT Notes / Description

1. The UUT is a low voltage (112.5 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 21D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

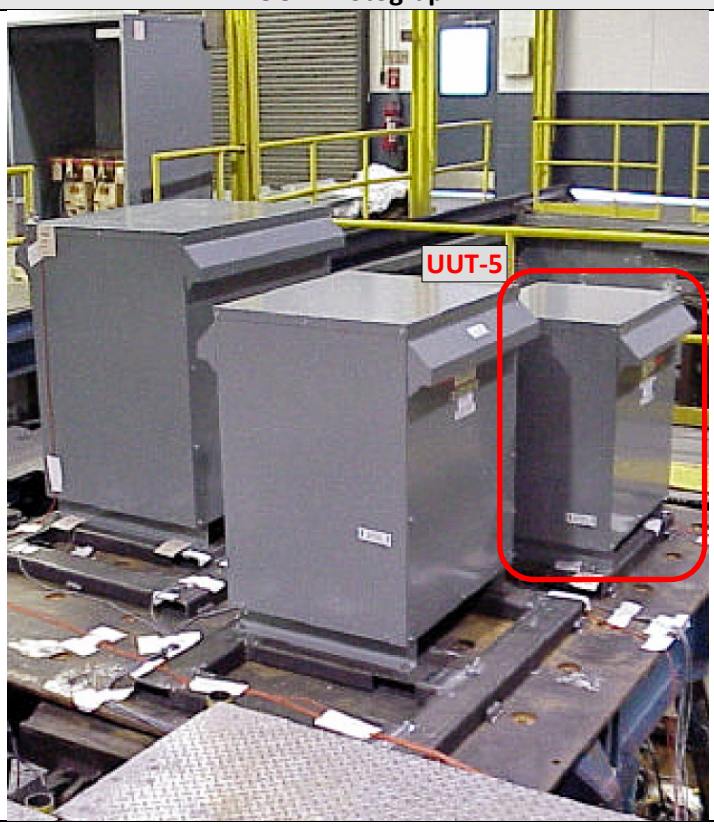
UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
802	37	30	24	13	12	16	Rigid floor mount with (4) 1/2-13 grade 5 bolts and flat washers at 70 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	3.10	0	1.5	3.10	1.24	2.08	0.84
		2.25	1	1.5	3.60	2.70	1.51	0.61

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph



UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3∅ Copper	Square D	112.5 kVA
Enclosure – NEMA Type 3R	Square D	21D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	150T3HCU

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	50348-3	12/12/2003	UUT-4

UUT Notes / Description

1. The UUT is a low voltage (150 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 22D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

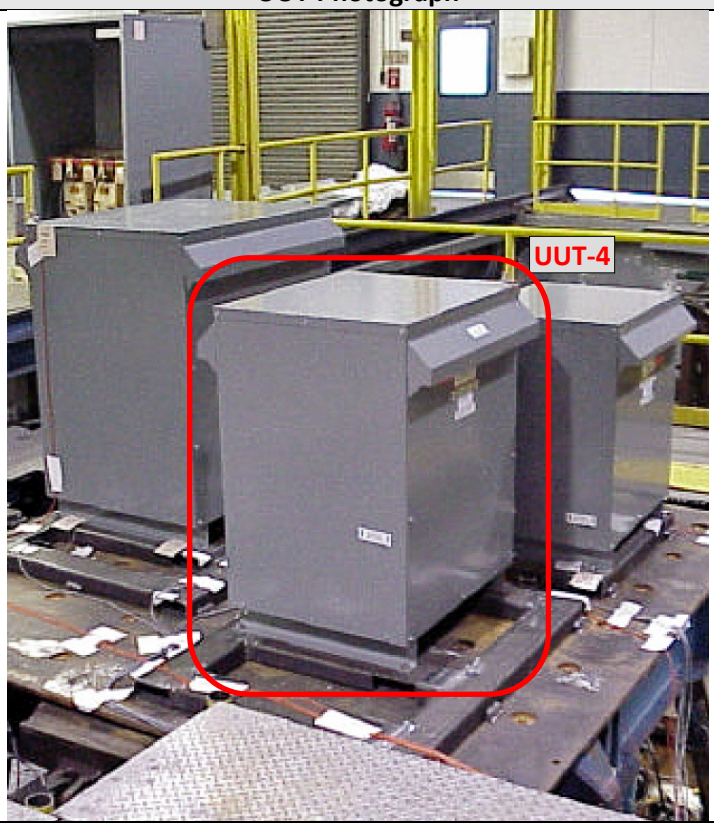
UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
1,128	44	32	27	11	12.5	12	Rigid floor mount with (4) 1/2-13 grade 5 bolts and flat washers at 70 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	3.10	0	1.5	3.10	1.24	2.08	0.84
		2.25	1	1.5	3.60	2.70	1.51	0.61

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph



UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Copper	Square D	150 kVA
Enclosure – NEMA Type 3R	Square D	22D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	300T68HFISCUNLP

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	50348-2	12/11/2003	UUT-2

UUT Notes / Description

1. The UUT is a low voltage (300 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 30D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
2,600	71	48	36	5.6	6.6	21.4	Rigid floor mount with (4) 1/2-13 grade 5 bolts and flat washers at 70 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	3.22	0	1.5	3.22	1.29	2.16	0.87
		2.12	1	1.5	3.39	2.54	1.42	0.57

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3∅ Copper	Square D	300 kVA
Enclosure – NEMA Type 2	Square D	30D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	750T68HCU

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	50348-1	12/11/2003	UUT-1

UUT Notes / Description

1. The UUT is a low voltage (750 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 31D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

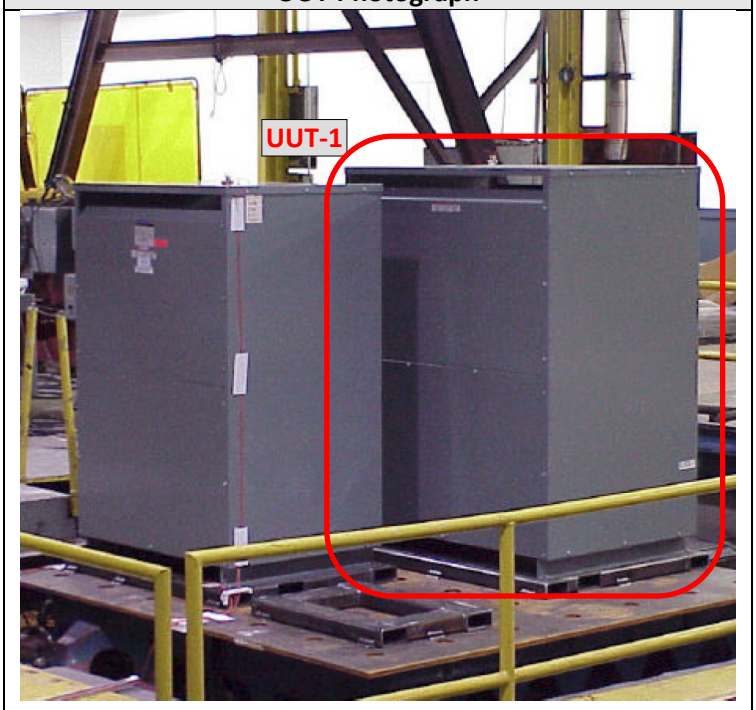
UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
4,012	74	56	40.5	3.1	6.0	10.1	Rigid floor mount with (4) 1/2-13 grade 5 bolts and flat washers at 70 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	z/h	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	3.22	0	1.5	3.22	1.29	2.16	0.87
		2.12	1	1.5	3.39	2.54	1.42	0.57

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph



UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Copper	Square D	750 kVA
Enclosure – NEMA Type 2	Square D	31D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	EE30T3H

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D191457 – Rev 1	12/17/2012	UUT-17D

UUT Notes / Description

1. The UUT is a low voltage (30 kVA), three phase transformer with aluminum windings packaged into a ventilated enclosure.
2. Enclosure number 17D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
260	27	20	16	10.9	25.0	>33.3	Rigid floor mount with (4) 7/16-14 grade 5 bolts and flat washers at 593 in-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	$A_{FLX\text{-}H}$ **(g)**	$A_{RIG\text{-}H}$ **(g)**	$A_{FLX\text{-}V}$ **(g)**	$A_{RIG\text{-}V}$ **(g)**
CBC 2016	ICC-ES AC156	2.40	0	1.5	2.40	0.96	1.61	0.65
		1.80	1	1.5	2.88	2.16	1.21	0.49

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Aluminum	Square D	30 kVA
Enclosure – NEMA Type 2	Square D	17D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	EE112T212H

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D191457 – Rev 1	12/17/2012	UUT-21D

UUT Notes / Description

1. The UUT is a low voltage (112.5 kVA), three phase transformer with aluminum windings packaged into a ventilated enclosure.
2. Enclosure number 21D is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents.

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
708	37	30	24	11.2	15.7	>33.3	Rigid floor mount with (4) 7/16-14 grade 5 bolts and flat washers at 593 in-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.32	0	1.5	2.32	0.93	1.55	0.63
		1.94	1	1.5	3.10	2.33	1.30	0.52

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3∅ Aluminum	Square D	112.5 kVA
Enclosure – NEMA Type 2	Square D	21D

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	EE30T3H

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D198959 – Rev 1	05/29/2013	UUT-4

UUT Notes / Description

1. The UUT is a low voltage (30 kVA), three phase transformer with aluminum windings packaged into a ventilated enclosure.
2. Enclosure number 17D is constructed of carbon steel sheet, with powder-coated finish.
3. Enclosure is mounted to wall using two carbon steel sheet mounting brackets.
4. UUT full of contents

UUT Properties (As Tested)

Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment
	Height	Width	Depth	F-B	S-S	V	
250	27	20	16	N/A	N/A	N/A	Rigid wall mount with (4) 7/16-14 grade 5 bolts and flat washers at 50 ft-lbs torque. Transformer is mounted to wall using (2) mounting brackets.

UUT Seismic Test Parameters

Building Codes	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	3.13	0	1.5	3.13	1.25	2.10	0.85
		2.52	1	1.5	4.03	3.02	1.69	0.68

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Aluminum	Square D	30 kVA
Enclosure – NEMA Type 2	Square D	17D
Enclosure Base	Square D	43101-914-01
Wall mounting bracket	Square D	43101-791-01
Wall mounting bracket	Square D	43101-791-02

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, Style D	EE75T3HCU

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D198959 – Rev 1	05/29/2013	UUT-5

UUT Notes / Description

1. The UUT is a low voltage (75 kVA), three phase transformer with copper windings packaged into a ventilated enclosure.
2. Enclosure number 20D is constructed of carbon steel sheet, with powder-coated finish.
3. Enclosure is mounted to wall using carbon steel sheet metal mounting brackets.
4. UUT full of contents

UUT Properties (As Tested)

Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment
	Height	Width	Depth	F-B	S-S	V	
600	37	30	20	N/A	N/A	N/A	Rigid wall mount with (4) 7/16-14 grade 5 bolts and flat washers at 50 ft-lbs torque. Transformer is mounted to wall using (2) mounting brackets.

UUT Seismic Test Parameters

Building Codes	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.50	0	1.5	2.50	1.00	1.68	068
		2.41	1	1.5	3.86	2.89	1.61	0.65

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Copper	Square D	75 kVA
Enclosure – NEMA Type 2	Square D	20D
Enclosure base	Square D	43055-009-01
Wall mounting bracket	Square D	43101-792-01
Wall mounting bracket	Square D	43101-792-02

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Resin Filled Encapsulated, Style A	3S46F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	51551-5	02/16/2005	UUT-1

UUT Notes / Description

1. The UUT is a low voltage (3 kVA), single phase transformer with copper windings packaged into a sealed, resin-filled enclosure.
2. Enclosure number 11A is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

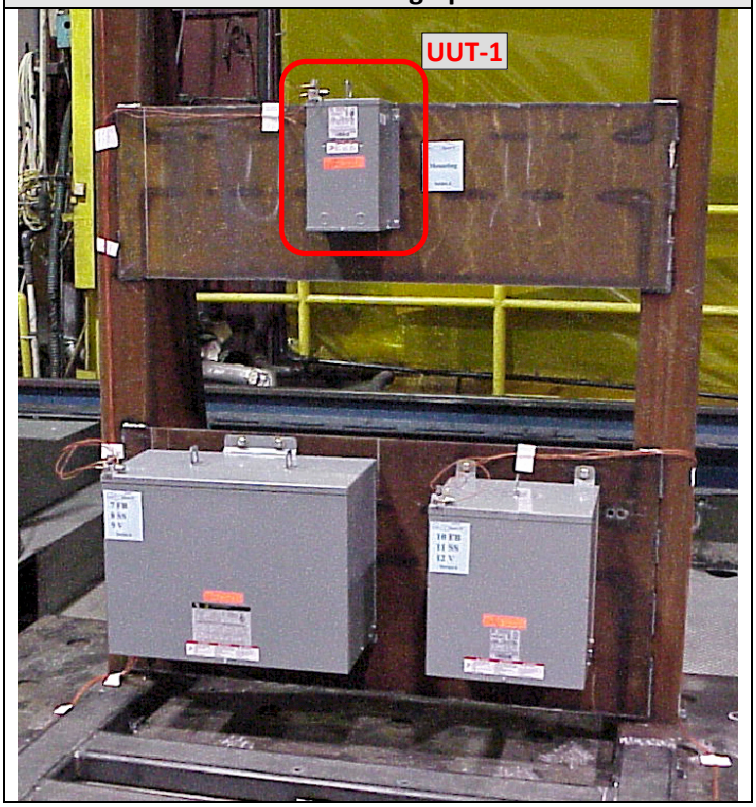
UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
60	14.5	8.62	6.5	N/A	N/A	N/A	Rigid wall mount with (4) 1/4-20 grade 5 bolts and flat washers at 7 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	$A_{FLX\text{-}H}$ **(g)**	$A_{RIG\text{-}H}$ **(g)**	$A_{FLX\text{-}V}$ **(g)**	$A_{RIG\text{-}V}$ **(g)**
CBC 2016	ICC-ES AC156	2.88	0	1.5	2.88	1.15	1.93	0.78
		2.39	1	1.5	3.82	2.87	1.60	0.65

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph



UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 1Ø Copper	Square D	3 kVA
Enclosure – NEMA Type 3R	Square D	11A

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Resin Filled Encapsulated, Style B	25S40F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	51551-5	02/16/2005	UUT-3

UUT Notes / Description

1. The UUT is a low voltage (25 kVA), single phase transformer with copper windings packaged into a sealed, resin-filled enclosure.
2. Enclosure number 15B is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
382	20	15	13.5	N/A	N/A	N/A	Rigid wall mount with (4) 1/2-13 grade 5 bolts and flat washers at 60 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.88	0	1.5	2.88	1.15	1.93	0.78
		2.39	1	1.5	3.82	2.87	1.60	0.65

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 1Ø Copper	Square D	25 kVA
Enclosure – NEMA Type 3R	Square D	15B

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Resin Filled Encapsulated, Style C	30T2F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Wyle Laboratories	51551-5	02/16/2005	UUT-2

UUT Notes / Description

1. The UUT is a low voltage (30kVA), three phase transformer with copper windings packaged into a sealed, resin-filled enclosure.
2. Enclosure number 16C is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

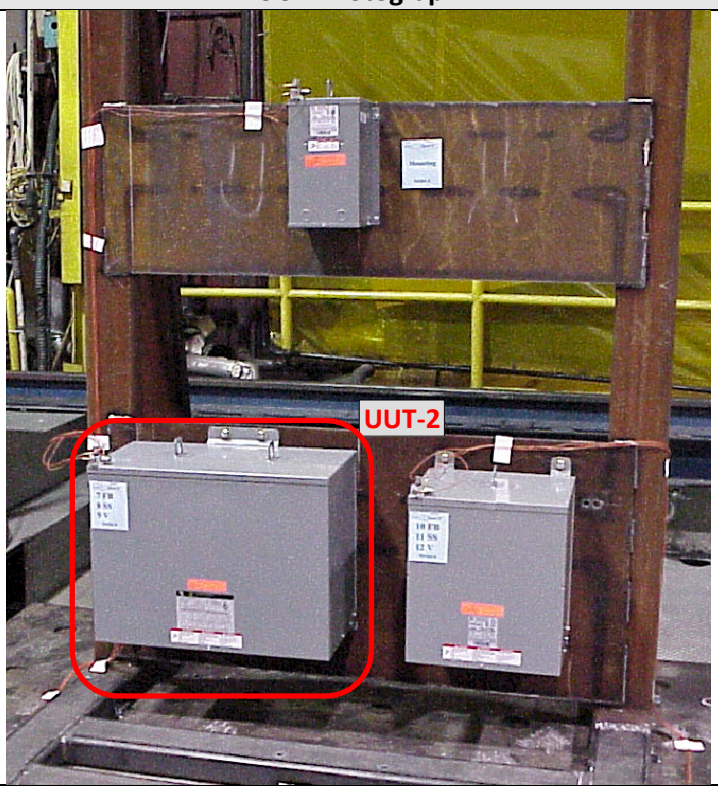
UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
664	22	25	13.5	N/A	N/A	N/A	Rigid wall mount with (2) 1/2-13 grade 5 bolts and flat washers at 60 ft-lb torque and (2) 1/4-20 grade 5 bolts and flat washers at 7 ft-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.88	0	1.5	2.88	1.15	1.93	0.78
		2.39	1	1.5	3.82	2.87	1.60	0.65

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph



UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 3Ø Copper	Square D	30 kVA
Enclosure – NEMA Type 3R	Square D	16C

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Resin Filled Encapsulated, Style A	2S1F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D191457 – Rev 1	12/17/2012	UUT-9A

UUT Notes / Description

1. The UUT is a low voltage (2 kVA), single phase transformer with aluminum windings packaged into a sealed, resin-filled enclosure.
2. Enclosure 9A is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
48	9.56	8.68	6.56	N/A	N/A	N/A	Rigid wall mount with (4) 1/4-20 grade 5 bolts and flat washers at 101 in-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.73	0	1.5	2.73	1.09	1.83	0.74
		1.92	1	1.5	3.07	2.30	1.29	0.52

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 1Ø Aluminum	Square D	2 kVA
Enclosure – NEMA Type 3R	Square D	9A

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Resin Filled Encapsulated, Style B	25S3025F-AL

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D193947 – Rev 1	02/05/2013	UUT-15B

UUT Notes / Description

1. The UUT is a low voltage (25 kVA), single phase transformer with aluminum windings packaged into a sealed, resin-filled enclosure.
2. Enclosure number 15B is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
340	22	15	13.5	N/A	N/A	N/A	Rigid wall mount with (4) 1/2-13 grade 5 bolts and flat washers at 904 in-lb torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.74	0	1.5	2.74	1.10	1.84	0.74
		1.94	1	1.5	3.10	2.33	1.30	0.52

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 1Ø Aluminum	Square D	25 kVA
Enclosure – NEMA Type 3R	Square D	15B

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Unit Substation - Low Voltage	Mini Power-Zone (MPZ)	MPZB25S40F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D198959 – Rev 1	05/29/2013	UUT-7

UUT Notes / Description

1. The UUT is a low voltage unit substation with an encapsulated single phase transformer (25 kVA) and primary and secondary main circuit breakers packaged into a NEMA type 3R enclosure.
2. Enclosure is constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents

UUT Properties (As Tested)

Weight (lbs.)	Dimensions (in.)			Lowest Natural Frequency (Hz)			Shake-Table Attachment
	Height	Width	Depth	F-B	S-S	V	
470	51	21.4	13.5	N/A	N/A	N/A	Rigid wall mount with (2) 1/4-20 grade 5 bolts and flat washers at 8 ft-lbs torque and (4) 1/2-13 grade 5 bolts and flat washers at 75 ft-lbs torque.

UUT Seismic Test Parameters

Building Codes	Test Criteria	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	3.16	0	1.5	3.16	1.26	2.12	0.85
		2.44	1	1.5	3.90	2.93	1.63	0.66

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components

Description	Manufacturer	Part No. / Identifier
Core and coil – 1∅ Copper	Square D	25 kVA
Enclosure – NEMA Type 3R	Square D	BB
Molded case circuit breaker 480V 100A	Square D	FAL24100
Miniature circuit breaker 120/240V 125A	Square D	QOB2125

UUT Summary
Low Voltage Transformers

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Unit Substation - Low Voltage	Mini Power-Zone (MPZ)	MPZB30T2F

UUT Test Report Association			
Test Lab	**Report No.**	**Test Date**	**UUT Designation**
Applied Technical Services, Inc.	D198959 – Rev 1	05/29/2013	UUT-8

UUT Notes / Description

1. The UUT is a low voltage unit substation with an encapsulated three phase transformer (30 kVA) and primary and secondary main circuit breakers packaged into a NEMA type 3R enclosure.
2. Enclosure is constructed of carbon steel sheet, with powder-coated finish..
3. UUT full of contents

UUT Properties (As Tested)							
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	
750	51	27.4	13.6	N/A	N/A	N/A	Rigid wall mount with (2) 1/4-20 grade 5 bolts and flat washers at 8 ft-lbs torque and (4) 1/2-13 grade 5 bolts and flat washers at 75 ft-lbs torque.

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.98	0	1.5	2.98	1.19	2.00	0.80
		2.29	1	1.5	3.66	2.75	1.53	0.62

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3Ø Copper	Square D	30 kVA
Enclosure – NEMA Type 3R	Square D	CC
Molded case circuit breaker 480V 90A	Square D	FAL34090
Miniature circuit breaker 240V 100A	Square D	QOB3100

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX15T3H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	9	UUT-1

UUT Notes / Description

1. The UUT is a low voltage (15 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure
2. NEMA Type 2 enclosure number 17K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
246	27	20.5	17.25	27	7.5	>33.3	Rigid floor mounted	(4) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} **(g)**	**z/h**	I_p	$A_{FLX\text{-}H}$ **(g)**	$A_{RIG\text{-}H}$ **(g)**	$A_{FLX\text{-}V}$ **(g)**	$A_{RIG\text{-}V}$ **(g)**
CBC 2016	ICC-ES AC156	2.25	0	1.5	2.25	0.90	1.51	0.61
		2.25	1	1.5	3.60	2.70	1.51	0.61

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	15 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	17K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX15T3HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	9	UUT-2

UUT Notes / Description

1. The UUT is a low voltage (15 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure
2. NEMA Type 2 enclosure number 17K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
246	27	20.5	17.25	31	10	27.0	Rigid floor mounted	(4) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} **(g)**	z/h	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	2.25	0	1.5	2.25	0.90	1.51	0.61
		2.25	1	1.5	3.60	2.70	1.51	0.61

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	15 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	17K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX150T3H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	4,36	UUT-3

UUT Notes / Description

1. The UUT is a low voltage (150 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure
2. NEMA Type 2 enclosure number 22K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
1152	49.1	33.65	28.5	>33.3	29	>33.3	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque with optional external L-brackets

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.56	0	1.5	1.56	0.62	1.05	0.42
		1.42	1	1.5	2.27	1.70	0.95	0.38

UUT Seismic Test Parameter, With Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.22	0	1.5	2.22	0.89	1.49	0.60
		2.22	1	1.5	3.55	2.66	1.49	0.60

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	150 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	22K
Mounting L-bracket kit	Square D	NHA77404

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX150T3HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	4, 36	UUT-4

UUT Notes / Description

1. The UUT is a low voltage (150 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 22K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
1314	49.1	33.65	28.5	7.5	4.1	10.2	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.56	0	1.5	1.56	0.62	1.05	0.42
		1.42	1	1.5	2.27	1.70	0.95	0.38

UUT Seismic Test Parameters, With Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.22	0	1.5	2.22	0.89	1.49	0.60
		2.22	1	1.5	3.55	2.66	1.49	0.60

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	150 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	22K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX300T3H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	15	UUT-5

UUT Notes / Description

1. The UUT is a low voltage (300 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 25K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
2020	57.5	40.1	32.75	31	9.5	18.0	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.31	0	1.5	2.31	0.92	1.55	0.62
		2.31	1	1.5	3.70	2.77	1.55	0.62

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	300 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	25K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX300T3HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	40	UUT-6A

UUT Notes / Description

1. The UUT is a low voltage (300 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 25K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
2136	57.5	40.1	32.75	>33.3	13.5	17.0	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.13	0	1.5	2.13	0.85	1.43	0.58
		2.13	1	1.5	3.41	2.56	1.43	0.58

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	300 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	25K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX750T68H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	40	UUT-7A

UUT Notes / Description

1. The UUT is a low voltage (750 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 31K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
4366	76.0	56.0	44.5	15	>33.3	>33.3	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.13	0	1.5	2.13	0.85	1.43	0.58
		2.13	1	1.5	3.41	2.56	1.43	0.58

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	750 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	31K

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX750T68HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	44	UUT-8A

UUT Notes / Description

1. The UUT is a low voltage (750 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 31K is constructed of carbon steel sheet, with powder-coated finish
3. UUT full of contents

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
5002	76.0	56.0	44.5	29	>33.3	>33.3	Rigid floor mounted	(4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque with optional external L-brackets.

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.17	0	1.5	2.17	0.87	1.45	0.59
		2.17	1	1.5	3.47	2.60	1.45	0.59

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	750 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	31K
Mounting L-bracket kit	Square D	NHA77404

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX15T3H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	32	UUT-9

UUT Notes / Description

1. The UUT is a low voltage (15 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 17K and wall-bracket are constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
241	27	20.5	17.25	N/A	N/A	N/A	Rigid wall mounted	Wall-bracket mount with (4) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} **(g)**	z/h	I_p	$A_{FLX\text{-}H}$ **(g)**	$A_{RIG\text{-}H}$ **(g)**	$A_{FLX\text{-}V}$ **(g)**	$A_{RIG\text{-}V}$ **(g)**
CBC 2016	ICC-ES AC156	2.17	0	1.5	2.17	0.87	1.45	0.59
		2.17	1	1.5	3.47	2.60	1.45	0.59

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	15 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	17K
Wall bracket kit	Square D	NHA73546 NHA73547

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX15T3HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	32	UUT-10

UUT Notes / Description

1. The UUT is a low voltage (15 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 17K and wall-bracket are constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
242	27	20.5	17.25	N/A	N/A	N/A	Rigid wall mounted	Wall-bracket mount with (4) 3/8-16 grade 5 bolts and flat washers at 25 ft-lbs torque

UUT Seismic Test Parameters								
Building Codes	**Test Criteria**	S_{DS} **(g)**	z/h	I_p	$A_{FLX\text{-}H}$ **(g)**	$A_{RIG\text{-}H}$ **(g)**	$A_{FLX\text{-}V}$ **(g)**	$A_{RIG\text{-}V}$ **(g)**
CBC 2016	ICC-ES AC156	2.17	0	1.5	2.17	0.87	1.45	0.59
		2.17	1	1.5	3.47	2.60	1.45	0.59

UUT Seismic Test Parameters, Without Internal Bracing

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	15 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	17K
Wall bracket kit	Square D	NHA73546 NHA73547

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX75T3H

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	28	UUT-11

UUT Notes / Description

1. The UUT is a low voltage (75 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with aluminum windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 20K and wall-bracket are constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
614	42	30.1	22.75	N/A	N/A	N/A	Rigid wall mounted	Wall-bracket mount with (4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} **(g)**	z/h	I_p	A_{FLX-H} **(g)**	A_{RIG-H} **(g)**	A_{FLX-V} **(g)**	A_{RIG-V} **(g)**
CBC 2016	ICC-ES AC156	1.69	0	1.5	1.67	0.68	1.13	0.46
		1.52	1	1.5	2.43	1.82	1.02	0.41

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Aluminum	Square D	75 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	20K
Wall bracket kit	Square D	NHA65474 NHA65144

UUT Summary
Low Voltage Transformers – DOE2016 EX

UUT Product Information			
Manufacturer	**Product Category**	**Product Line Model**	**Model Number**
Square D by Schneider Electric	Transformers – Low Voltage	Dry Type, Ventilated, DOE2016, Style EX	EX75T3HCU

UUT Test Report Association				
Test Lab	**Report No.**	**Report Date**	**Test Run No.**	**UUT Designation**
NTS Huntsville	PR036473-TR-15	11/19/2016	52	UUT-12

UUT Notes / Description

1. The UUT is a low voltage (75 kVA), three phase, energy efficient (DOE 2016) dry-type transformer with copper windings packaged into a ventilated NEMA Type 2 enclosure.
2. NEMA Type 2 enclosure number 20K and wall-bracket are constructed of carbon steel sheet, with powder-coated finish.
3. UUT full of contents.

UUT Properties (As Tested)								
Weight (lbs.)	**Dimensions (in.)**			**Lowest Natural Frequency (Hz)**			**Shake-Table Attachment**	
	Height	**Width**	**Depth**	**F-B**	**S-S**	**V**	**Type**	**Anchorage**
706	42.0	30.1	22.75	N/A	N/A	N/A	Rigid wall mounted	Wall-bracket mount with (4) 1/2-13 grade 5 bolts and flat washers at 65 ft-lbs torque

UUT Seismic Test Parameters, Without Internal Bracing								
Building Codes	**Test Criteria**	S_{DS} (g)	z/h	I_p	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.80	0	1.5	1.80	0.72	1.21	0.49
		1.44	1	1.5	2.30	1.73	0.96	0.39

UUT Seismic Test Results

✓ The UUT maintained structural integrity and functionality as confirmed in post test inspection and active operation validation checks

UUT Photograph

UUT Major Components		
Description	**Manufacturer**	**Part No. / Identifier**
Core and coil – 3 Phase, Copper	Square D	75 kVA
Enclosure – NEMA Type 2, Carbon Steel Sheet	Square D	20K
Wall bracket kit	Square D	NHA65474 NHA65144